

REMARKS

Claims 1-39 are pending in the present application. Reconsideration of the application is respectfully requested in view of the following responsive remarks. For the Examiner's convenience and reference, Applicant's remarks are presented in the order in which the corresponding issues were raised in the Office Action.

In the office action of September 18, 2006, the following actions were taken:

- (1) Claims 1, 3, and 6-10 were rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 6,439,708 to Kato (hereinafter "Kato").
- (2) Claims 15, 19-22, 29, and 31-34 were rejected under 35 U.S.C. 102(b) as being anticipated by Kato.
- (3) Claims 27-28, and 38-39 were rejected under 35 U.S.C. 102(b) as being anticipated by Kato.
- (4) Claims 2, 4-5, and 11-14 were rejected under 35 U.S.C. 103(a) as being unpatentable over Kato in view of U.S. Patent No. 6,270,214 to Smith (hereinafter "Smith") and U.S. Patent No. 6,428,157 to Wen (hereinafter "Wen").
- (5) Claims 16-18, 23-26, 30, and 35-37 were rejected under 35 U.S.C. 103(a) as being unpatentable over Kato in view of Smith and Wen.

It is respectfully submitted that the presently pending claims be reconsidered and allowed. Applicants submit that each and every amendment herein is fully supported by the specification as originally filed, and that no new matter has been added.

Rejections under 35 U.S.C. § 102

The Examiner has rejected claims 1, 3, 6-10, 15, 19-22, 27-29, 31-34, and 38-39 under 35 U.S.C. 102 over Kato. As each of the rejections is based on Kato, all of the 35 U.S.C. 102 rejections will be discussed together. Before discussing the rejections, it is thought proper to briefly state what is required to sustain such a rejection. It is well settled that "[a] claim is anticipated only if each and every element as set forth in the claims is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil of California*, 814 F.2d 628, 2 U.S.P.Q. 2d 1051, 1053 (Fed. Cir. 1987). In order to establish anticipation under 35 U.S.C. § 102, all elements of the claim must be found in a single reference. *Hybritech, Inc. v. Monoclonal Antibodies, Inc.*, 231 U.S.P.Q. 81, 90 (Fed. Cir. 1986),

cert. denied 107 S.Ct. 1606 (1987). In particular, as pointed out by the court in *W.L. Gore & Assoc., Inc. v. Garlock, Inc.*, 220 U.S.P.Q. 303, 313 (Fed. Cir. 1981), *cert denied*, 469 U.S. 851 (1984), "anticipation requires that each and every element of the claimed invention be disclosed in a prior art reference." "The identical invention must be shown in as complete detail as is contained in the...claim." *Richardson v. Suzuki Motor Co.* 9 U.S.P.Q. 2d 1913, 1920 (Fed. Cir. 1989).

The present invention is drawn to a system for printing durable ink-jet ink images. The system includes a first printhead containing a fixer composition with a charged fixer component. The first printhead is configured to ink-jet the fixer composition on a substrate. The system also includes a second printhead with an ink-jet ink configured to ink-jet printing over the fixer composition. The ink includes a colorant that is oppositely-charged of the charge of the fixer component. The system further includes a third printhead with a polymer overcoat composition. The third printhead is configured for printing the polymer overcoat composition over the ink-jet ink composition. The polymer overcoat composition carries a charge that is opposite of that of the fixer component. A method is also included wherein the following compositions are applied as indicated: cationic fixer composition applied to media substrate; ink-jet ink composition with anionic colorant to the applied cationic fixer; anionic polymer overcoat to the applied ink-jet ink. A similar method is also included wherein the fixer composition is anionic and the colorant in the ink composition and the polymer overcoat compositions are cationic. Printed images are also included.

Kato, the cited reference, teaches a method for ink recording. The method can include the use of three compositions, 1) an ink composition, 2) a first liquid including polymeric fine particles, and optionally 3) a second liquid containing a reactant or fixer. Kato further teaches that the polymeric fine particulates can contain a cationic group possessing ultraviolet absorbing activity. The reference also teaches that polyvalent metal salts can be present in the first liquid, in particular anionic salts. A number of dyes and pigments are also taught, although no mention is made of the ionic nature of any of the colorants.

Kato does not teach each and every element of the presently claimed invention. Specifically, Kato does not teach of a colorant with an opposite charge to that of a fixer, nor the overall charge relationship between three separately used compositions, nor the order of application of separate and specifically-charged

compositions. As noted, although Kato mentions a variety of colorants, the reference is silent as to the ionic nature of any potentially-used colorants as they related to other layers. All of the independent claims of the present invention require an ink-jet ink with a charged colorant.

Furthermore, not only do the present claims require an ink-jet ink with a charged colorant, but they require a specific charge in relation to a fixer component of a fixer composition. Where Kato does not teach the importance of a charged colorant, it certainly cannot teach the required relationship of the colorant charge in relation to a fixer component of a fixer composition. Additionally, the presently claimed invention requires a polymer of a polymer overcoat composition to carry the opposite charge as the fixer. As with the fixer charge relationship, Kato can not teach the necessary charge relationship between the colorant and the polymer for lack of teaching of the importance of selecting an appropriately charged colorant.

The present disclosure outlines very specific charge relationships. A fixer composition with a fixer component having a first charge, an ink with a colorant having an opposite charge from the fixer component, and a polymer in a third composition having a charge that is opposite that of the fixer component. Kato does not discuss a charged colorant and therefore inherently can not teach the necessary charge relationships. Further, at best, Kato mentions that the polymer of the first liquid may be ionic and that the fixer reacts with the ink. These teachings do not teach or imply the charge relationship between the three compositions.

Also, as the relationships of the charges in each composition are not taught by Kato, Kato can not inherently teach the application of a first composition with a charged element to a substrate, followed by application of a second composition having a component with an opposite charge and subsequently followed by application of a third composition having a charged component with a charge opposite the first composition. Likewise, the reference is void of teaching a system wherein the compositions are configured for such ordered printing.

As Kato is clearly missing elements of the presently claimed invention, the Applicant respectfully requests withdrawal of the rejection of claims 1, 3, 6-10, 15, 19-22, 27-29, 31-34, and 38-39 under 35 U.S.C. 102 over Kato.

Rejections Under 35 U.S.C. § 103

The Examiner has rejected claims 2, 4-5, 11-14, 16-18, 23-26, 30, and 35-37 as being obvious over Kato in view of Smith and Wen. The Applicant respectfully submits that these claims are patentable over the cited references for the reasons set forth below, and that the rejection should be withdrawn. As each of the 35 U.S.C. 103 rejections is based on the Kato, Smith, and Wen references, all of the rejections will be discussed together.

Before discussing the obviousness rejections herein, it is thought proper to briefly state what is required to sustain such a rejection. The issue under § 103 is whether the PTO has stated a case of *prima facie* obviousness. According to the MPEP § 2142, the Examiner has the burden and must establish a case of *prima facie* obviousness by showing the prior art reference, or references combined, teach all the claim limitations in the instant application. The Applicant respectfully asserts the Examiner has not satisfied the requirement for establishing a case of *prima facie* obviousness in any of the rejections.

Smith teaches a process to provide water fast, bleed free and feathering free printed images. Smith teaches the use of varying anionic and cationic components. Wen teaches an apparatus for forming durable ink images.

As noted previously, Kato lacks teaching of a colorant with an opposite charge of a fixer, the overall charge relationship between three separately used compositions as claimed, and the order of application of separate and specifically-charged compositions. Neither Wen nor Smith, together or separately, remedies these missing elements. As such, the cited references fail to teach a system for printing durable ink-jet ink images wherein the charged fixer component has an opposite charge with respect to both the charged colorant and the charged polymer.

Each of the independent claims of the present application include the limitations that the fixer composition includes a charged fixer component, the ink-jet ink includes a colorant carrying an opposite charge with respect to the fixer component, and a polymer overcoat composition where the polymer carries an opposite charge with respect to the fixer component. As each and every element of the presently pending claims cannot be found in the cited references, a *prima facie* case of obviousness has not been established, and removal of the rejections is requested.

CONCLUSION

In view of the foregoing, Applicants believe that claims 1-39 present allowable subject matter and allowance is respectfully requested. If any impediment to the allowance of these claims remains after consideration of the above remarks, and such impediment could be removed during a telephone interview, the Examiner is invited to telephone W. Bradley Haymond (Registration No. 35,186) at (541) 715-0159 so that such issues may be resolved as expeditiously as possible.

Please charge any additional fees except for Issue Fee or credit any overpayment to Deposit Account No. 08-2025

Dated this 18th day of December, 2006.

Respectfully submitted,



Gary P. Oakeson
Attorney for Applicant
Registration No. 44,266

THORPE NORTH & WESTERN, LLP
8180 South 700 East, Suite 350
Sandy, Utah 84070
(801) 566-6633

On Behalf Of:
HEWLETT-PACKARD COMPANY
1000 NE Circle Blvd., m/s 422B
Corvallis, OR 97330-4239
(541) 715-0159